Introduction to

HOME AUTOMATION AND SMART HOME TECHNOLOGY

The basics behind the technology that can give your home the smarts to operate at its most efficient.

ALTHOUGH AUTOMATION IS EMERGING as the next must-have technology for the home, you may hear it also referred to as home monitoring, home control, smart home, or connected home. Home automation can be used in a limited capacity in single spaces, or throughout the entire residence, including outdoors. Today, there are very few limitations as to what can be controlled or monitored using this technology.

Some of the most popular examples of home automation include:

◆ Devices that control lights, shades, thermostats, audio, video (one or more TVs, a dedicated home theater, etc.), pools/hot tubs, security systems and more.
◆ Smartphone or tablet-based apps that let you turn lights off and on, adjust thermostats and monitor the security of your home remotely.
◆ Complete integration that unifies nearly every electronic subsystem in your home so that they all can be controlled via dedicated touchpanels, keypads, handheld remotes, smartphones and tablets.

Why Automate?

Regardless of make or model, home automation systems are designed to provide these four core benefits: comfort, convenience, efficiency and peace of mind. These advantages are often realized only after you have lived with an automation system for a while, when you have been able to fully experience the impact it can have on your everyday routines and lifestyle. After the novelty and luxury of owning a new home automation system wears off, these benefits are what you’ll mention first when friends and family ask why you decided to put a system into your house.
Let’s take a look at each factor:

◆ Efficiency. The fact is, switching off and on lights, locking doors, adjusting thermostats and tweaking other electronic devices takes time, especially in a large house. An automation system can consolidate every touch it takes to prepare your house for your arrival, departure and other occasions into a single command.

◆ Convenience. Who wants to get up from the couch to close the shades and dim the lights when you can do it from a remote control or iPad app? Convenience is king in an automated house where lights, door locks, thermostats and other devices can be adjusted with just a touch of a button.

◆ Comfort. Through its ability to actively monitor every system in your house, an automation system ensures maximum comfort with minimum effort.

◆ Peace of Mind. A home automation system helps prevent potentially bad things from happening by enabling you to monitor parts of your house conveniently from touchpanels, remote controls, tablets and smartphones—and turn things off, close things up and make adjustments if necessary.

Which control system is best for you?

There’s a wide variety of solutions available, from simple one-room, do-it-yourself products that can be purchased via a big-box retailer to professionally-installed systems intended to automate an entire residence. Here are the four main providers of automation systems, along with some of the pros and cons of each:

◆ Retail (online, stores and other sources)
  Most automation systems sold through retail channels are designed to be installed by do-it-yourselves. They are usually wireless, which simplifies the installation process, and are affordable. On the flip side, installing a home automation system yourself may not be as easy as you think. Although you may need to fish a minimal (or none) amount of wire, you may need to update the wireless network in your house so that the automation system works reliably.

◆ Mass Market Service Providers
  You’re already paying for cable, phone and Internet service; why not bundle an automation system into your monthly bill? Mass market service providers offer a convenient way to buy an automation system, but know that the capabilities of these systems are fairly basic.

◆ Security Dealers
  From the same companies that have for years been selling security systems to residential clients you can now buy a complete automation system. Systems from this channel provide home protection with basic automation of lights and thermostats.

◆ Custom Electronic (CE) Professionals
  No one knows home automation better than a CE pro. They typically sell higher-end systems that have the capacity to automate just about anything you can think of—lights, A/V equipment, thermostats, motorized window shades, swimming pool pumps, the works. They are highly customizable and can be tweaked to provide additional features.
The Power of a Good Plan

If you are building a new home and would like to incorporate home automation, plan for it early in the construction phase. It is always less expensive to install an automation system while a home is being built than to wait until it is finished. You'll be able to blend the technology into the architecture and style of the house in a way that's functional and attractive. For example, by working automation into the construction plans, touchpanels can be easily flush mounted into walls and speakers can be tucked into ceilings. Plus, it'll be a cinch for a CE pro to install essential cabling to every possible location—even places where you can't imagine needing a TV, a keypad or a speaker. By having the wire in place, you'll be able to add devices to the home automation system should you change your mind and put a flat-panel TV in the garage, for example.

Wired or Wireless?

A popular option in home automation is “wireless.” Many homeowners balk at the idea of having new wires run throughout an existing home, so wireless systems look appealing. Some automation systems may require running power to places where you can't run a wire. In those cases look for products that can operate for a long time on batteries such as remote-controlled lights and motorized shades. Wireless technologies are becoming more prevalent in today's home automation systems, and offer a great deal of functionality. However, if you are starting your project while your home (or room) is being constructed, then wired systems will continue to be the optimal solution in the long term.

Will an Automation System Affect the Style and Aesthetics of My Home?

While home automation systems utilize sophisticated technologies, most people don't want them to be the stand-out feature in a room. We don't generally want the home technology to overwhelm the home's aesthetic. Automation systems require an interface—the device from which the user interacts with the subsystems managed by the automation processor. Think of a light switch as a basic interface for your room's lights. With a more comprehensive automation system designed to integrate several subsystems (lighting, audio, video, windows, security etc.), it's important for the control interface(s) to be simple to use. Common interfaces include tabletop remotes, in-wall keypads, LCD touchscreens plus smartphones and tablets.

What works best for each application will depend on the number of systems being controlled and your individual preferences. Ideally you should have more than one way to control a system. For example, in addition to a smartphone app to control your lights, you should also have an in-wall keypad.

Overall, the effect on aesthetics should be minimal. Today's systems, with their variety of available control interfaces, have become increasingly discreet. In many cases, there is no effect at all, since an existing device you already carry around with you like a smartphone or tablet can manage your system. In addition, wall-based panels and switches generally are available to match any décor and often do not take up any more space than a traditional light switch would. It's also common for professional home automation providers to work closely with interior designers and architects to coordinate the style of your living space with any controls that may be required.
How Expensive Is Home Automation?
Home automation was once thought of as something only for the wealthy few, but today there are options to fit nearly any homeowner’s budget. Some basic products, such as a wirelessly controlled dimmer and remote control, can give you a taste of home automation for under $100. Smaller multi-room systems can start at $500 and go up to $5,000 or much more. Advanced systems for estate-size houses can reach well into six figures. Cost all depends on the size of the project, the number of systems you want to control and the level of ease of use and reliability your project requires.

The cost of a professional installation hinges on a number of factors. First there’s the cost of the equipment itself which may include master controllers, matrix switchers, and separate modules for specific applications (such as amplifiers for audio distribution), plus the control interfaces for each room. In addition to that, you will need to factor labor costs for professional design, wiring, installation and programming.

Where Do You Start?
Now that you’re interested and thinking about the possibilities, where do you begin? Visiting or talking to a local CE pro is a great start. From a CE pro you can learn more about the specific systems available and discuss what might be possible to achieve given your specific budget.

Think about the tasks you do around your house every day—managing your lights and thermostats, enjoying music and video, keeping track of your family, entertaining indoors and out—and imagine which tasks might be made more efficient with the help of a home automation system. Also think about how you would like to connect to the system—are you a smartphone or tablet junkie, or would you prefer to use an in-wall keypad or touchpanel that’s in the same place every time you need it?

Keep in mind that having a home automation system can be a little addictive. Once you get used to having it, you may wonder how you lived without it. Most people who begin with basic functionality end up expanding into more rooms or more functions, and that’s the beauty of home automation. It’s there to make your life easier.

For more information on Home Automation and to arrange an installation, visit our web page at www.fortechsolutions.com or contact us at info@fortechsolutions.com.